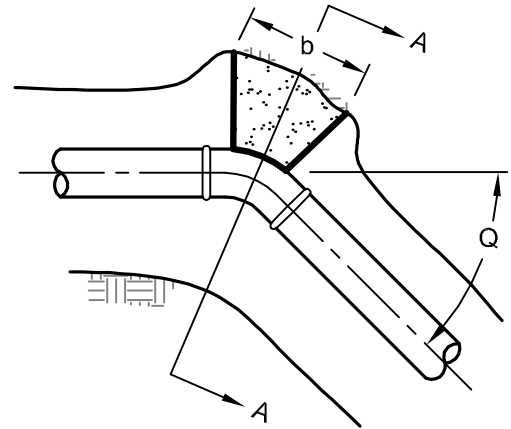


SECTION A-A



PLAN

NOTES:

1. Use 5-sack (min) concrete; 2% calcium (max).
2. Do not exceed the calculated block dimensions by more than 10% .
3. Protect fitting with 6-mil plastic before pouring thrust block.
Concrete shall not interfere with flange bolt removal.
4. Determine block dimensions as follows :

$$\text{Block Bearing Area} = hb = \text{Thrust} / \text{Passive soil pressure} = T / P_p$$

$$\text{Thrust (lbs)} = 2PA \sin(Q / 2) \text{ or } T = PA \text{ for ends and tees}$$

Where : A = Cross-sectional area of pipe (Square Inches)

P = Test pressure at fitting (psi)

Q = Fitting angle

P_p = Passive soil pressure (lbs/Sq. Ft) .

P_p for saturated clay = $gZ + 2C$

P_p for Palouse Loess at optimum moisture content = $gZ \tan^2(45^\circ + F / 2) + 2C \tan(45^\circ + F / 2)$

P_p for granular material = $gZ \tan(45^\circ + F / 2)$

Where : g = Weight per cubic foot of soil

Z = Depth in feet from ground surface to center of pipe

C = Cohesion factor = 200 psf for Palouse Loess

F = Internal friction angle of soil. Use 28° for Palouse Loess, and 42° for granular material

AutoCAD: Thrust Block - Bearing

dwc 3-00
DRR

BEARING THRUST BLOCK DESIGN

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CITY OF PULLMAN
ENGINEERING DIVISION

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